

Source Water Assessment Report



Public Water Supply: CONCORDIA, CITY OF

**Assessment Areas Include:
260, 261, 262, 263**



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Reports were generated with the Automated Source Water Assessment Tool (ASWAT). Assessments were completed online using ASWAT by hundreds of state employees, public water supply staff, and technical assistant providers throughout the State of Kansas.

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Report Description

Detailed Explanation of Entire Report:

The 1996 amendments to the Safe Drinking Water Act require each state to develop a Source Water Assessment Program (SWAP) and a Source Water Assessment (SWA) for each Public Water Supply (PWS) that treats and distributes raw source water. In Kansas there are 761 public water supplies that require SWAs. A SWA includes a delineation of the source water assessment area, an inventory of potential contaminant sources, and a susceptibility analysis.

A PWS can consist of one or more individual assessment areas that require different assessments. In general, an assessment area is delineated at a two-mile fixed radius for a groundwater well. A surface water intake assessment area is the upstream-drainage area (watershed), inside the state border. Additionally, an assessment area can consist of an individual well, group of wells, an individual surface water intake, or multiple surface water intakes.

After each assessment is completed a report is automatically generated using an Internet-based application called the Automated Source Water Assessment Tool (ASWAT). The individual assessment reports combine to form the entire SWA report for a PWS.

A map of each Assessment Area was also generated with ASWAT. However, for security reasons the maps are not included in this report. To obtain a copy of the map(s), please contact your local PWS.

All PWS reports will be available for viewing and downloading on KDHE's Watershed Management Section website(<http://www.kdhe.state.ks.us/nps>) in 2004.

CONCORDIA, CITY OF Summary:

AA	Type	Diversion Id
260	Ground water multiple wells	020, 018, 019
261	Ground water single well	016
262	Ground water multiple wells	010, 014, 014
263	Ground water multiple wells	021, 22

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **260**
Diversion Id's: **020, 018, 019**
Status: **Accepted**
Submit Date: **2002-12-24 11:29:20**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **260**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	57	56	58	60	56	63
SLS Range	Mid	Mid	Mid	Mid	Mid	Mid

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **260**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
160639	Single-family Housing Construction	1521	B
160713	Single-family Housing Construction	1521	B
160756	Metal Stampings Manufacturing	3469	B
160631	Fabricated Metal Products Manufacturing	3499	B
160763	Auto Truck Repair Service	7538	B
160393	Dairy Farms	241	C
160472	Veterinary Services, Specialties	742	C
160782	Veterinary Services, Specialties	742	C
160395	Single-family Housing Construction	1521	C
160405	Single-family Housing Construction	1521	C
160407	Single-family Housing Construction	1521	C
160467	Single-family Housing Construction	1521	C
160667	Single-family Housing Construction	1521	C
160747	Nonresidential Construction	1542	C
160353	Highway and Street Construction	1611	C
160509	Highway and Street Construction	1611	C
160612	Bottled and Canned Soft Drinks Production	2086	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
160438	Newspapers Publishing and Printing	2711	C
160521	Commercial Printing–Lithographic	2752	C
160355	Ready–mix Concrete Plant	3273	C
160766	Sheet Metal Work Manufacturing	3444	C
160461	Surgical Appliances and Supplies Manufacturing	3842	C
160402	Farm Product Warehousing and Storage	4221	C
160411	Farm Product Warehousing and Storage	4221	C
160357	Refuse Systems	4953	C
160757	Construction and Mining Machinery	5082	C
160421	Farm and Garden Machinery	5083	C
160398	Scrap and Waste Materials	5093	C
160453	Scrap and Waste Materials	5093	C
160602	Gasoline Service Station	5541	C
160390	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160409	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160425	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160469	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160664	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
160389	Auto Truck Repair Service	7538	C
160456	Auto Truck Repair Service	7538	C
160606	Auto Truck Repair Service	7538	C
160608	Auto Truck Repair Service	7538	C
160622	Auto Truck Repair Service	7538	C
160665	Auto Truck Repair Service	7538	C
160720	Auto Truck Repair Service	7538	C
160722	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000140	Skyline 66 Service	01689	B

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000706	Abram Ready Mix	07005	B
3001957	National Weather Service	27610	B
3002167	Blosser Municipal Airport	28919	B
3000136	Apco, Rick's	01675	C
3000138	Downtown 66 Service	01680	C
3000410	Farmway Coop	05044	C
3000535	St Joseph Hospital, Concordia	06265	C
3000611	Pepsi Cola Warehouse	06557	C
3000643	Love's #43	06727	C
3000737	Scrivner Of Kansas	07158	C
3000757	Mount Joseph Senior Community	07363	C
3000787	Cloud Co Hwy Dept	07857	C
3000802	Concordia, Central Maintenance	08063	C
3000953	Babe Hooser Motor Co	11663	C
3001112	First Class Ford-merc	16718	C
3001149	Murk Automotive	18079	C
3001511	Martin Tractor Company	25697	C
3001735	Kdot, Concordia	26665	C
3002331	Hairscope	29709	C
3002345	Upr, Concordia	29750	C
3002359	Concordia City Hall	29809	C
3002437	Farmway Coop, Bulk Plant	42812	C
3002444	Upr, Concordia	42942	C

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3002663	Braun Warehouse (abandoned)	81213	C
3002783	Abb Air Preheater	81493	C
3002824	Shop Bldg	81626	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000706	RITEWAY CLEANERS – 3RD STREET	C501500010	C
7000709	VALLEY FERTILIZER, CONCORDIA	C501500070	C
7000710	UNION PACIFIC RR REFUELING STATION (FORMER), CONCO	C501500415	C
7000712	FMGP – CONCORDIA	C501570031	C

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6001412	CONCORDIA MWTP	M-LR08-OO01	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **260**

Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000864	Irrigation equipment, pump site, and well	10012	B
9000865	Fuel, grain, and feed and hay storage	10038	B
9000866	wheat fields	111	B
9000863	cropland	115	B

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **CONCORDIA, CITY OF**
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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
12	1	31	10	23	9

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **CONCORDIA, CITY OF**
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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
2086	Bottled and Canned Soft Drinks Production	BOD	A
5082	Construction and Mining Machinery	NA	NA
3499	Fabricated Metal Products Manufacturing	inorganics, VOCs	B
"	"	"	D
5541	Gasoline Service Station	Inorganics, VOCs	B
"	"	"	D
1611	Highway and Street Construction	Sedimentation	B2
3469	Metal Stampings Manufacturing	inorganics, VOCs	B
"	"	"	D
1542	Nonresidential Construction	Sedimentation	B2
3273	Ready-mix Concrete Plant	Minerals and TSS	B
5093	Scrap and Waste Materials	Metals, TSS	B
3444	Sheet Metal Work Manufacturing	Metals and TSS, VOCs and metal etch	B
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	B2
"	"	"	B*
"	"	"	C
3842	Surgical Appliances and Supplies Manufacturing	inorganics, VOCs	B
"	"	"	D
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
2752	Commercial Printing-Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
241	Dairy Farms	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
5083	Farm and Garden Machinery	inorganics	B
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
4953	Refuse Systems	ALL	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
"	"	"	C*
"	"	"	D

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **260**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
2086	Bottled and Canned Soft Drinks Production	BOD	Wastewater pretreatment and/or discharge to a POTW.	40 CFR 407 and State or federal Storm water pollution prevention regulations
5082	Construction and Mining Machinery	NA	Discharge to POTW	NA
3499	Fabricated Metal Products Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA
1611	Highway and Street Construction	Sedimentation	Erosion and Sediment Control	KAR 28-16, KDHE

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3469	Metal Stampings Manufacturing	inorganics, VOCs	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 464 and State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28-16, KDHE
3273	Ready-mix Concrete Plant	Minerals and TSS	Minimize outdoor storage and control storm water runoff.	State or federal Storm water pollution prevention regulations
5093	Scrap and Waste Materials	Metals, TSS	Minimize contact with storm water	State or federal Storm water pollution prevention regulations
3444	Sheet Metal Work Manufacturing	Metals and TSS, VOCs and metal etch	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 464 and State or federal Storm water pollution prevention regulations
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28-48, KDHE, KDEM

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3842	Surgical Appliances and Supplies Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
2752	Commercial Printing—Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
241	Dairy Farms	Sanitary, fertilizers	Collect and treat process wastes. Use good erosion control practices. Minimize storm water contact with contaminants.	40 CFR 405
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
4953	Refuse Systems	ALL	Store wastes properly in order to minimize contact with storm water.	Maintain the lagoon or storage vessel properly. Control storm water run on and runoff to minimize contamination of storm water

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **CONCORDIA, CITY OF**
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Ground Water Multiple Wells Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	No	0	0	0	0	0	0
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	Yes	0	0	0	0	0	0
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	Yes	1	1	1	1	1	1
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
11	Are any non-farm home sites present in Zone B?	Yes	1	0	1	0	1	0
12	Do all the non-farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
13	Are any farmsteads present in Zone B?	Yes	1	1	1	1	1	1
14	Do all farmsteads have a water quality protection plan?	No	1	1	1	1	1	1
15	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0
16	Have all livestock producers implemented water quality protection measures?	No	1	0	1	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	Yes	0	0	1	0	1	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	No	0	0	1	0	1	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	Yes	1	1	1	0	0	0
24	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
25	Is there oil production in Zone B or C?	Yes	0	1	0	1	0	1
26	Do coarse textured soils predominate Zones A, B and C?	No	0	0	0	0	0	0
27	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
28	Is a wastewater treatment facility in Zone B or C?	Yes	1	1	1	1	1	1
29	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	Yes	1	1	1	1	1	1
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
33	Is there livestock confinement in Zone C?	No	0	0	0	0	0	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
36	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
37	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
38	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
39	Are watershed water quality protection plans in place?	No	1	1	1	1	1	1

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **260**
Diversion Id's: **020, 018, 019**
Status: **Accepted**
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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **260**

Comments for Unregulated Sites

Did Not Receive Any Comments

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
VALLEY FERTILIZER, CONCORDIA	7000709	Some nitrate and pesticide contaminated soils were excavated and disposed of off-site. Additional investigations have discovered a nitrate plume in local groundwater. Several water supply wells are located nearby but aren't threatened by this plume.	Nicole Fisher

Comments for Regulated Identified Contaminated Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
VALLEY FERTILIZER, CONCORDIA	7000709	For additional information please contact Tom Jones 785-296-6380	Nicole Fisher

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

Public Water Supply: **CONCORDIA, CITY OF**
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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **CONCORDIA, CITY OF**
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Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Fuel, grain, and feed and hay storage	9000865	This site could possibly contaminate the public water supply.	Nicole Fisher
Irrigation equipment, pump site, and well	9000864	This site could possibly contaminate the public water supply.	Nicole Fisher
cropland	9000863	This site could possibly contaminate the public water supply.	Nicole Fisher
wheat fields	9000866	This site could possibly contaminate the public water supply.	Nicole Fisher

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **260**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Did Not Receive Any Comments		

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **261**
Diversion Id's: **016**
Status: **Accepted**
Submit Date: **2002-12-24 11:33:18**

Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **261**

Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	32	38	37	44	39	42
SLS Range	Low	Low	Low	Low	Low	Low

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **261**
Diversion Id's: **016**
Status: **Accepted**
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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **261**

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
160393	Dairy Farms	241	C
160472	Veterinary Services, Specialties	742	C
160395	Single-family Housing Construction	1521	C
160405	Single-family Housing Construction	1521	C
160407	Single-family Housing Construction	1521	C
160467	Single-family Housing Construction	1521	C
160639	Single-family Housing Construction	1521	C
160667	Single-family Housing Construction	1521	C
160713	Single-family Housing Construction	1521	C
160747	Nonresidential Construction	1542	C
160353	Highway and Street Construction	1611	C
160509	Highway and Street Construction	1611	C
160476	Meat Packing Plant Manufacturing	2011	C
160612	Bottled and Canned Soft Drinks Production	2086	C
160438	Newspapers Publishing and Printing	2711	C
160521	Commercial Printing-Lithographic	2752	C
160355	Ready-mix Concrete Plant	3273	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
160766	Sheet Metal Work Manufacturing	3444	C
160756	Metal Stampings Manufacturing	3469	C
160631	Fabricated Metal Products Manufacturing	3499	C
160461	Surgical Appliances and Supplies Manufacturing	3842	C
160402	Farm Product Warehousing and Storage	4221	C
160411	Farm Product Warehousing and Storage	4221	C
160357	Refuse Systems	4953	C
160757	Construction and Mining Machinery	5082	C
160421	Farm and Garden Machinery	5083	C
160474	Farm and Garden Machinery	5083	C
160398	Scrap and Waste Materials	5093	C
160453	Scrap and Waste Materials	5093	C
160602	Gasoline Service Station	5541	C
160390	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160409	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160425	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160469	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
160664	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160389	Auto Truck Repair Service	7538	C
160456	Auto Truck Repair Service	7538	C
160606	Auto Truck Repair Service	7538	C
160608	Auto Truck Repair Service	7538	C
160622	Auto Truck Repair Service	7538	C
160665	Auto Truck Repair Service	7538	C
160720	Auto Truck Repair Service	7538	C
160722	Auto Truck Repair Service	7538	C
160763	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2002078	Hayden Hereford Farms	A-LRCD-BA01	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000136	Apco, Rick's	01675	C

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000138	Downtown 66 Service	01680	C
3000140	Skyline 66 Service	01689	C
3000410	Farmway Coop	05044	C
3000535	St Joseph Hospital, Concordia	06265	C
3000611	Pepsi Cola Warehouse	06557	C
3000643	Love's #43	06727	C
3000706	Abram Ready Mix	07005	C
3000737	Scrivner Of Kansas	07158	C
3000757	Mount Joseph Senior Community	07363	C
3000787	Cloud Co Hwy Dept	07857	C
3000802	Concordia, Central Maintenance	08063	C
3000953	Babe Hooser Motor Co	11663	C
3001112	First Class Ford-merc	16718	C
3001149	Murk Automotive	18079	C
3001511	Martin Tractor Company	25697	C
3001735	Kdot, Concordia	26665	C
3002331	Hairscope	29709	C
3002345	Upr, Concordia	29750	C
3002359	Concordia City Hall	29809	C
3002411	Walthers Oil Co (81 Texaco)	40748	C
3002437	Farmway Coop, Bulk Plant	42812	C
3002444	Upr, Concordia	42942	C
3002630	Abb Raymond	81124	C

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3002663	Braun Warehouse (abandoned)	81213	C
3002783	Abb Air Preheater	81493	C
3002824	Shop Bldg	81626	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000706	RITEWAY CLEANERS – 3RD STREET	C501500010	C
7000709	VALLEY FERTILIZER, CONCORDIA	C501500070	C
7000710	UNION PACIFIC RR REFUELING STATION (FORMER), CONCO	C501500415	C
7000712	FMGP – CONCORDIA	C501570031	C

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6001406	CONCORDIA MWTP	M-LR08-OO01	C

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6001407	CONCORDIA MWTP	M-LR08-OO01	C
6001408	CONCORDIA MWTP	M-LR08-OO01	C
6001409	CONCORDIA MWTP	M-LR08-OO01	C
6001410	CONCORDIA MWTP	M-LR08-OO01	C
6001411	CONCORDIA MWTP	M-LR08-OO01	C
6001412	CONCORDIA MWTP	M-LR08-OO01	C
6001413	CONCORDIA MWTP	M-LR08-OO01	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

Public Water Supply: **CONCORDIA, CITY OF**
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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000472		10008	B
9000473		10008	B
9000474	Farm	10008	B
9000864	Irrigation equipment, pump site, and well	10012	B
9000467	Oil Co. Shop	10026	B
9000468	Truck Stop Fuel Storage	10026	B
9000865	Fuel, grain, and feed and hay storage	10038	B
9000470	Truck Stop Restaurant wastewater system	10067	B
9000469		111	B
9000866	wheat fields	111	B
9000863	cropland	115	B
9000471		5541	B
9000475	Mobile Home Park	6515	C

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **CONCORDIA, CITY OF**
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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
12	1	31	10	23	10

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

Public Water Supply: **CONCORDIA, CITY OF**
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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
2086	Bottled and Canned Soft Drinks Production	BOD	A
5082	Construction and Mining Machinery	NA	NA
3499	Fabricated Metal Products Manufacturing	inorganics, VOCs	B
"	"	"	D
5541	Gasoline Service Station	Inorganics, VOCs	B
"	"	"	D
1611	Highway and Street Construction	Sedimentation	B2
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	A
"	"	"	B*
3469	Metal Stampings Manufacturing	inorganics, VOCs	B
"	"	"	D
1542	Nonresidential Construction	Sedimentation	B2
3273	Ready-mix Concrete Plant	Minerals and TSS	B
5093	Scrap and Waste Materials	Metals, TSS	B
3444	Sheet Metal Work Manufacturing	Metals and TSS, VOCs and metal etch	B

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
3842	Surgical Appliances and Supplies Manufacturing	inorganics, VOCs	B
"	"	"	D
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
2752	Commercial Printing-Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
241	Dairy Farms	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D
5083	Farm and Garden Machinery	inorganics	B
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
4953	Refuse Systems	ALL	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
"	"	"	C*
"	"	"	D

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **261**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
2086	Bottled and Canned Soft Drinks Production	BOD	Wastewater pretreatment and/or discharge to a POTW.	40 CFR 407 and State or federal Storm water pollution prevention regulations
5082	Construction and Mining Machinery	NA	Discharge to POTW	NA
3499	Fabricated Metal Products Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA
1611	Highway and Street Construction	Sedimentation	Erosion and Sediment Control	KAR 28-16, KDHE

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	Wastewater pretreatment and/or discharge to a POTW	40CFR 432 and State or federal Storm water pollution prevention regulations
3469	Metal Stampings Manufacturing	inorganics, VOCs	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 464 and State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28-16, KDHE
3273	Ready-mix Concrete Plant	Minerals and TSS	Minimize outdoor storage and control storm water runoff.	State or federal Storm water pollution prevention regulations
5093	Scrap and Waste Materials	Metals, TSS	Minimize contact with storm water	State or federal Storm water pollution prevention regulations
3444	Sheet Metal Work Manufacturing	Metals and TSS, VOCs and metal etch	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 464 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28-48, KDHE, KDEM
3842	Surgical Appliances and Supplies Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
2752	Commercial Printing-Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
241	Dairy Farms	Sanitary, fertilizers	Collect and treat process wastes. Use good erosion control practices. Minimize storm water contact with contaminants.	40 CFR 405

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
4953	Refuse Systems	ALL	Store wastes properly in order to minimize contact with storm water.	Maintain the lagoon or storage vessel properly. Control storm water run on and runoff to minimize contamination of storm water

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **CONCORDIA, CITY OF**
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Ground Water Single Well Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is the well under the influence of surface water?	No	0	0	0	0	0	0
2	Does the well meet KS water well construction standards?	Yes	0	0	0	0	0	0
3	Is the depth of the well less than 30 feet?	No	0	0	0	0	0	0
4	Are there unplugged, abandoned water wells present in Zone A?	No	0	0	0	0	0	0
5	Is there gravel pack within 20 feet of the surface?	No	0	0	0	0	0	0
6	Does a PWS own or control Zone A?	Yes	0	0	0	0	0	0
7	Does Zone A consist entirely of native grass?	Yes	0	0	0	0	0	0
8	Is there a contaminated well in the Zone A?	No	0	0	0	0	0	0
9	Is a class V UIC well present?	No	0	0	0	0	0	0
10	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
11	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
12	Are any non-farm home sites present in Zone B?	No	0	0	0	0	0	0
13	Do all the non-farm home sites have a water quality protection plan?	Yes	0	0	0	0	0	0
14	Are any farmsteads present in Zone B?	No	0	0	0	0	0	0
15	Do all farmsteads have a water quality protection plan?	Yes	0	0	0	0	0	0
16	Does Zone B consist entirely of native grass?	No	1	1	1	1	1	1
17	Is there grazing livestock in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
19	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0
20	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
21	Is there corn or grain sorghum production in Zone B?	Yes	0	0	1	0	1	0
22	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	No	0	0	1	0	1	0
23	Are any orchards present in Zone B?	No	0	0	0	0	0	0
24	Are orchard nutrient and pesticide plans in use for each site?	Yes	0	0	0	0	0	0
25	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
26	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
27	Is there oil production in Zone B or C?	Yes	0	1	0	1	0	1
28	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
29	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
30	Is a wastewater treatment facility in Zone B or C?	Yes	1	1	1	1	1	1
31	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
32	Are there unplugged, abandoned water wells present in Zone B or C?	Yes	1	0	0	0	0	0
33	Are any commercial, industrial, or urban areas present in Zone C?	Yes	1	1	1	1	1	1
34	Are water quality protection plans in use for each site/area?	No	1	1	1	1	1	1
35	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
36	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
37	Do all the livestock producers have water quality protection measures in place?	No	1	0	1	0	0	0
38	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
39	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
40	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
41	Are watershed water quality protection plans in place?	No	1	1	1	1	1	1

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **CONCORDIA, CITY OF**
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Comments for Unregulated Sites

Did Not Receive Any Comments

Comments for Regulated Confined Animal Feeding Operations Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Hayden Hereford Farms	2002078	This cattle livestock facility has no water quality protection plans.	Nicole Fisher

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
VALLEY FERTILIZER, CONCORDIA	7000709	Some nitrate and pesticide contaminated soils were excavated and disposed of off-site. Additional investigations have discovered a nitrate plume in local groundwater. Several water supply wells are located nearby but aren't threatened by this plume.	Nicole Fisher

Comments for Regulated Identified Contaminated Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
VALLEY FERTILIZER, CONCORDIA	7000709	For additional information please contact Tom Jones 785-296-6380	Nicole Fisher

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **CONCORDIA, CITY OF**
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Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Farm	9000474	Agriculture area in Zone B	Mike Houck
Fuel, grain, and feed and hay storage	9000865	This site could possibly contaminate the public water supply.	Nicole Fisher
Irrigation equipment, pump site, and well	9000864	This site could possibly contaminate the public water supply.	Nicole Fisher
Mobile Home Park	9000475	Cluster of mobile homes in Zone B	Mike Houck
Oil Co. Shop	9000467	Shop and storage bldg. containing oil and petroleum products and fuel storage tanks	Mike Houck
Truck Stop Restaurant wastewater system	9000470	Large onsite wastewater absorption field for truck stop and restaurant	Mike Houck
Truck Stop Fuel Storage	9000468	Above ground fuel storage tanks alittle over a hundred feet from the well.	Mike Houck
cropland	9000863	This site could possibly contaminate the public water supply.	Nicole Fisher
wheat fields	9000866	This site could possibly contaminate the public water supply.	Nicole Fisher
Unknown	9000469	Crop ground with potential runoff source for well area	Mike Houck

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Unknown	9000471	Fuel pumps and vehicles using facility are near well	Mike Houck
Unknown	9000472	Agriculture area in Zone B	Mike Houck
Unknown	9000473	Agriculture area in Zone B	Mike Houck

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **261**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Did Not Receive Any Comments		

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Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **CONCORDIA, CITY OF**
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Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	57	56	58	60	56	63
SLS Range	Mid	Mid	Mid	Mid	Mid	Mid

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

Public Water Supply: **CONCORDIA, CITY OF**
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Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
160405	Single-family Housing Construction	1521	B
160353	Highway and Street Construction	1611	B
160355	Ready-mix Concrete Plant	3273	B
160411	Farm Product Warehousing and Storage	4221	B
160357	Refuse Systems	4953	B
160398	Scrap and Waste Materials	5093	B
160393	Dairy Farms	241	C
160472	Veterinary Services, Specialties	742	C
160782	Veterinary Services, Specialties	742	C
160395	Single-family Housing Construction	1521	C
160407	Single-family Housing Construction	1521	C
160467	Single-family Housing Construction	1521	C
160639	Single-family Housing Construction	1521	C
160667	Single-family Housing Construction	1521	C
160713	Single-family Housing Construction	1521	C
160747	Nonresidential Construction	1542	C
160509	Highway and Street Construction	1611	C
160612	Bottled and Canned Soft Drinks Production	2086	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
160438	Newspapers Publishing and Printing	2711	C
160521	Commercial Printing–Lithographic	2752	C
160756	Metal Stampings Manufacturing	3469	C
160631	Fabricated Metal Products Manufacturing	3499	C
160402	Farm Product Warehousing and Storage	4221	C
160757	Construction and Mining Machinery	5082	C
160421	Farm and Garden Machinery	5083	C
160453	Scrap and Waste Materials	5093	C
160602	Gasoline Service Station	5541	C
160390	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160409	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160425	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160469	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160664	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160389	Auto Truck Repair Service	7538	C
160456	Auto Truck Repair Service	7538	C
160606	Auto Truck Repair Service	7538	C

Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
160608	Auto Truck Repair Service	7538	C
160622	Auto Truck Repair Service	7538	C
160665	Auto Truck Repair Service	7538	C
160720	Auto Truck Repair Service	7538	C
160722	Auto Truck Repair Service	7538	C
160763	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000737	Scrivner Of Kansas	07158	B
3000787	Cloud Co Hwy Dept	07857	B

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000802	Concordia, Central Maintenance	08063	B
3002345	Upr, Concordia	29750	B
3002437	Farmway Coop, Bulk Plant	42812	B
3002444	Upr, Concordia	42942	B
3000136	Apco, Rick's	01675	C
3000138	Downtown 66 Service	01680	C
3000140	Skyline 66 Service	01689	C
3000410	Farmway Coop	05044	C
3000535	St Joseph Hospital, Concordia	06265	C
3000611	Pepsi Cola Warehouse	06557	C
3000643	Love's #43	06727	C
3000706	Abram Ready Mix	07005	C
3000757	Mount Joseph Senior Community	07363	C
3000953	Babe Hooser Motor Co	11663	C
3001112	First Class Ford-merc	16718	C
3001149	Murk Automotive	18079	C
3001511	Martin Tractor Company	25697	C
3001735	Kdot, Concordia	26665	C
3002331	Hairscope	29709	C
3002359	Concordia City Hall	29809	C
3002411	Walthers Oil Co (81 Texaco)	40748	C
3002663	Braun Warehouse (abandoned)	81213	C
3002783	Abb Air Preheater	81493	C

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3002824	Shop Bldg	81626	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000709	VALLEY FERTILIZER, CONCORDIA	C501500070	B
7000710	UNION PACIFIC RR REFUELING STATION (FORMER), CONCO	C501500415	B
7000712	FMGP – CONCORDIA	C501570031	B
7000706	RITEWAY CLEANERS – 3RD STREET	C501500010	C

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000472		10008	B
9000473		10008	B
9000474	Farm	10008	B
9000864	Irrigation equipment, pump site, and well	10012	B
9000467	Oil Co. Shop	10026	B
9000468	Truck Stop Fuel Storage	10026	B
9000865	Fuel, grain, and feed and hay storage	10038	B
9000470	Truck Stop Restaurant wastewater system	10067	B
9000469		111	B
9000866	wheat fields	111	B
9000863	cropland	115	B
9000471		5541	B
9000475	Mobile Home Park	6515	C

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

Public Water Supply: **CONCORDIA, CITY OF**
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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
12	1	29	10	22	9

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological	B – Inorganic Compounds	B1 – Eutrophication – Phosphorous
B2 – Sedimentation	B* – Nitrates	C – Synthetic Organic Compounds
C* – Pesticides	D – Volatile Organic Compounds	

Potential Contaminants Listing

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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
2086	Bottled and Canned Soft Drinks Production	BOD	A
5082	Construction and Mining Machinery	NA	NA
3499	Fabricated Metal Products Manufacturing	inorganics, VOCs	B
"	"	"	D
5541	Gasoline Service Station	Inorganics, VOCs	B
"	"	"	D
1611	Highway and Street Construction	Sedimentation	B2
3469	Metal Stampings Manufacturing	inorganics, VOCs	B
"	"	"	D
1542	Nonresidential Construction	Sedimentation	B2
3273	Ready-mix Concrete Plant	Minerals and TSS	B
5093	Scrap and Waste Materials	Metals, TSS	B
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	B*
"	"	"	C
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B
"	"	"	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
2752	Commercial Printing-Lithographic	Inorganics, VOCs, Semi volatiles	B
"	"	"	C
"	"	"	D
241	Dairy Farms	Sanitary, fertilizers	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
4221	Farm Product Warehousing and Storage	TSS, VOCs	B
"	"	"	D
5083	Farm and Garden Machinery	inorganics	B
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	B
"	"	"	C

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	D
4953	Refuse Systems	ALL	A
"	"	"	B
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
"	"	"	C*
"	"	"	D

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

Public Water Supply: **CONCORDIA, CITY OF**
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Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
2086	Bottled and Canned Soft Drinks Production	BOD	Wastewater pretreatment and/or discharge to a POTW.	40 CFR 407 and State or federal Storm water pollution prevention regulations
5082	Construction and Mining Machinery	NA	Discharge to POTW	NA
3499	Fabricated Metal Products Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
5541	Gasoline Service Station	Inorganics, VOCs	Maintain area to minimize fuel contamination	NA
1611	Highway and Street Construction	Sedimentation	Erosion and Sediment Control	KAR 28-16, KDHE

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
3469	Metal Stampings Manufacturing	inorganics, VOCs	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 464 and State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28-16, KDHE
3273	Ready-mix Concrete Plant	Minerals and TSS	Minimize outdoor storage and control storm water runoff.	State or federal Storm water pollution prevention regulations
5093	Scrap and Waste Materials	Metals, TSS	Minimize contact with storm water	State or federal Storm water pollution prevention regulations
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28-48, KDHE, KDEM
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
2752	Commercial Printing–Lithographic	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations
241	Dairy Farms	Sanitary, fertilizers	Collect and treat process wastes. Use good erosion control practices. Minimize storm water contact with contaminants.	40 CFR 405
4221	Farm Product Warehousing and Storage	TSS, VOCs	Keep the area clean of grain. Use grease traps.	State or federal Storm water pollution prevention regulations
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA
2711	Newspapers Publishing and Printing	Inorganics, VOCs, Semi volatiles	Recycle chemicals where possible. Discharge to POTW	40 CFR 459 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
4953	Refuse Systems	ALL	Store wastes properly in order to minimize contact with storm water.	Maintain the lagoon or storage vessel properly. Control storm water run on and runoff to minimize contamination of storm water

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **262**

Ground Water Multiple Wells Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	No	0	0	0	0	0	0
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	Yes	0	0	0	0	0	0
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	Yes	1	1	1	1	1	1
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
11	Are any non-farm home sites present in Zone B?	Yes	1	0	1	0	1	0
12	Do all the non-farm home sites have a water quality protection plan?	No	1	0	1	0	1	0
13	Are any farmsteads present in Zone B?	Yes	1	1	1	1	1	1
14	Do all farmsteads have a water quality protection plan?	No	1	1	1	1	1	1
15	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0
16	Have all livestock producers implemented water quality protection measures?	No	1	0	1	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	Yes	0	0	1	0	1	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	No	0	0	1	0	1	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	Yes	1	1	1	0	0	0
24	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
25	Is there oil production in Zone B or C?	Yes	0	1	0	1	0	1
26	Do coarse textured soils predominate Zones A, B and C?	Yes	1	1	1	1	1	1
27	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
28	Is a wastewater treatment facility in Zone B or C?	No	0	0	0	0	0	0
29	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	Yes	1	1	1	1	1	1
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	No	1	1	1	1	1	1
33	Is there livestock confinement in Zone C?	No	0	0	0	0	0	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	Yes	0	0	0	0	0	0
36	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
37	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
38	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
39	Are watershed water quality protection plans in place?	No	1	1	1	1	1	1

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Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

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Comments for Unregulated Sites

Did Not Receive Any Comments

Comments for Regulated Confined Animal Feeding Operations Sites

Did Not Receive Any Comments

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
VALLEY FERTILIZER, CONCORDIA	7000709	Some nitrate and pesticide contaminated soils were excavated and disposed of off-site. Additional investigations have discovered a nitrate plume in local groundwater. Several water supply wells are located nearby but aren't threatened by this plume.	Nicole Fisher

Comments for Regulated Identified Contaminated Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
VALLEY FERTILIZER, CONCORDIA	7000709	For additional information please contact Tom Jones 785-296-6380	Nicole Fisher

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **CONCORDIA, CITY OF**
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Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Farm	9000474	Agriculture area in Zone B	Mike Houck
Fuel, grain, and feed and hay storage	9000865	This site could possibly contaminate the public water supply.	Nicole Fisher
Irrigation equipment, pump site, and well	9000864	This site could possibly contaminate the public water supply.	Nicole Fisher
Mobile Home Park	9000475	Cluster of mobile homes in Zone B	Mike Houck
Oil Co. Shop	9000467	Shop and storage bldg. containing oil and petroleum products and fuel storage tanks	Mike Houck
Truck Stop Restaurant wastewater system	9000470	Large onsite wastewater absorption field for truck stop and restaurant	Mike Houck
Truck Stop Fuel Storage	9000468	Above ground fuel storage tanks alittle over a hundred feet from the well.	Mike Houck
cropland	9000863	This site could possibly contaminate the public water supply.	Nicole Fisher
wheat fields	9000866	This site could possibly contaminate the public water supply.	Nicole Fisher
Unknown	9000469	Crop ground with potential runoff source for well area	Mike Houck

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Unknown	9000471	Fuel pumps and vehicles using facility are near well	Mike Houck
Unknown	9000472	Agriculture area in Zone B	Mike Houck
Unknown	9000473	Agriculture area in Zone B	Mike Houck

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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

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Comments for Analysis Questions

Analysis Question	Question Comments	Author
Did Not Receive Any Comments		

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Executive Summary:

The Executive Summary gives the assessment area's Susceptibility Likelihood Score (SLS) for each contaminant of concern category.

SLS indicates which contaminant category is most likely to impact a given public water supply. Contaminants of concern for groundwater include microbiological, inorganic compounds, nitrates, synthetic organic compounds, pesticides, and volatile organic compounds. Contaminants of concern for surface water include microbiological, inorganic compounds, eutrophication – phosphorus, sedimentation, synthetic organic compounds, pesticides, and volatile organic compounds.

To determine the assessment area's susceptibility to contamination, a qualitative (semi-quantitative) screening level susceptibility analysis was designed that utilizes general assumptions and best professional judgement. It is a systematic procedure comprised of simple yes/no questions. Each question in the susceptibility analysis focuses on the presence or absence of potential pollution sources in the assessment area. SLS is most useful in helping the Public Water Supply (PWS) focus on water quality protection actions towards a contaminant category of concern. For example, if the SLS for microbiological contamination is high, relative to volatile organic compounds (VOC), water supply protection planners would conclude that the attention should be directed towards microbiological contaminant sources rather than VOC sources.

Executive Summary

Public Water Supply: **CONCORDIA, CITY OF**
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Susceptibility Likelihood Scores for Assessment Area

Contaminant Category	A	B	B*	C	C*	D
Susceptibility Likelihood Score – SLS	41	42	45	48	42	46
SLS Range	Low	Low	Low	Low	Low	Low

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

Susceptibility Likelihood Range

SLS Range	
0–50	Low Susceptibility
51–80	Moderate Susceptibility
81–100	High Susceptibility

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Potential Sources:

The Potential Sources section lists all the sites that have been identified as potential sources of contamination.

Potential sources of contamination may include land uses, industry, or businesses that could generate or store chemicals/substances that could potentially contaminate the water supply only if released into the environment. Both unregulated sites from business location databases and regulated sites from various KDHE databases were compiled. Additional sites could have been added by an evaluator through the assessment process to supplement the original data.

The 1987 Standard Industrial Classifications (SIC) were used to identify potential contaminate sites. The SIC system classifies establishments into industries on the basis of the primary activities of the establishment.

Each assessment area is delineated with 3 assessment zones. These zones can be used to get a general understanding of the potential influence sites have based on proximity to the water supply. Zone A is a 100-foot radius around a groundwater well and a 1000-foot radius around a surface water intake. Zone B is a 2000-foot radius around wells and a hydrological delineated buffer around the surface water sources. Zone C is a 2-mile radius around wells and the balance of the watershed for intakes. The potential sources listed in this section are sorted to show all the potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business is identified in the study as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

The data for the potential sources of contamination was compiled from May through August in 2002. Some of the databases used were incomplete datasets that are continually being updated. Due to the incompleteness, inaccuracies, and new development, it is possible that sources of potential contamination that are in the assessment area are not included in the report. Inaccurate locations could also cause sources to show up in the assessment area that are not actually in the assessment. Additionally, duplication between the datasets could cause sites to show up multiple times in the assessment area.

Potential Sources

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Unregulated Potential Site Sources

Source No.	SIC Description	SIC ID	Zone
160472	Veterinary Services, Specialties	742	C
160467	Single-family Housing Construction	1521	C
160667	Single-family Housing Construction	1521	C
160747	Nonresidential Construction	1542	C
160476	Meat Packing Plant Manufacturing	2011	C
160612	Bottled and Canned Soft Drinks Production	2086	C
160766	Sheet Metal Work Manufacturing	3444	C
160756	Metal Stampings Manufacturing	3469	C
160461	Surgical Appliances and Supplies Manufacturing	3842	C
160474	Farm and Garden Machinery	5083	C
160469	Top, Body, and Upholstery Repair Shops and Paint Shops	7532	C
160389	Auto Truck Repair Service	7538	C
160456	Auto Truck Repair Service	7538	C
160622	Auto Truck Repair Service	7538	C
160722	Auto Truck Repair Service	7538	C

Regulated Confined Animal Feeding Operations Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
2001577	Fredrickson, George	A-LRCD-BA04	C

Regulated Hazardous Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Leaking Storage Tank Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
3000140	Skyline 66 Service	01689	C
3000611	Pepsi Cola Warehouse	06557	C
3000953	Babe Hooser Motor Co	11663	C
3001112	First Class Ford-merc	16718	C
3001377	Cloud Ceramics	24535	C
3001511	Martin Tractor Company	25697	C
3001735	Kdot, Concordia	26665	C
3002630	Abb Raymond	81124	C
3002783	Abb Air Preheater	81493	C
3002824	Shop Bldg	81626	C

Regulated Identified Contaminated Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
7000706	RITEWAY CLEANERS – 3RD STREET	C501500010	C

Regulated Solid Waste Potential Site Sources

Did Not Contain Any Of These Potential Site Sources

Regulated Waste Water Potential Site Sources

Source No.	Source Name	ID/Permit No.	Zone
6000745	CLOUD CERAMICS – #C-77 #C-80	I-LR08-PO02	C
6001406	CONCORDIA MWTP	M-LR08-OO01	C
6001407	CONCORDIA MWTP	M-LR08-OO01	C
6001408	CONCORDIA MWTP	M-LR08-OO01	C
6001409	CONCORDIA MWTP	M-LR08-OO01	C
6001410	CONCORDIA MWTP	M-LR08-OO01	C
6001411	CONCORDIA MWTP	M-LR08-OO01	C
6001412	CONCORDIA MWTP	M-LR08-OO01	C
6001413	CONCORDIA MWTP	M-LR08-OO01	C

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Added Sources:

The Added Sources section lists all the sites that have been added as potential sources of contamination by an evaluator through the assessment process to supplement the original data.

The potential sources listed in this section are sorted to show the added potential sources in Zone A first, Zone B second, and Zone C third.

Although a facility or business was added as a potential concern, it does not necessarily mean a release or spill has occurred. Contamination could only occur if certain chemical substances are released into the environment and filter into the water supply source.

Added Sources

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Added Potential Site Sources

Source No.	Source Name	SIC ID	Zone
9000867	Grove of trees	0	B
9000864	Irrigation equipment, pump site, and well	10012	B
9000868	Irrigation equipment, pump site, and well	10012	B
9000466	Ceramics Company	10026	B
9000863	cropland	115	B

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Potential Contaminants Summary:

The Contaminants Summary shows the number of identified unregulated sources in the assessment area for each contaminant of concern category.

In order to obtain the number of sources for each category, a relationship was correlated between each Standard Industrial Classification (SIC) and the contaminant of concern categories. Each SIC was assessed and associated with contaminant categories. For example, if not managed properly, a car wash (SIC 7542) could potentially contaminate an intake because of inorganic compounds (IOC) and volatile organic compounds (VOC); thus, a car wash is associated with IOCs and VOCs.

A chart displays a count for each contaminant category. The sum for each category represents the total number of identified sources that have been associated with that particular contaminant category. However, the total number of identified sources does not include contaminants from the Added Sources. In our example, a car wash would be considered 2 sources of contamination. It would be a potential source of contamination for IOCs and for VOCs; thus, 1 would be added to the total number of sources in the VOC category and 1 would be added to the IOC category.

Potential Contaminants Summary

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Number of Unregulated Site Sources Identified for each Contaminant Category

MicroBiological	Pesticides	IOC's	SOC's	VOC's	Nitrates
5	0	10	2	7	3

A – Microbiological

B* – Nitrates

C* – Pesticides

B – Inorganic Compounds

C – Synthetic Organic Compounds

D – Volatile Organic Compounds

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Potential Contaminants Listing:

The Potential Contaminants section lists the contaminant of concern category associated with each Standard Industrial Classification (SIC) found in an assessment area. A complete list of contaminant category codes are located at the bottom of this page.

The relationships defined between the Standard Industrial Classifications (SIC) and the contaminant of concern categories are displayed in a table format. Using our car wash example, the relationships can be better illustrated. A car wash could release IOC and VOC chemical substances. The connection is shown by indicating the SIC, 7542, and the associated contaminant categories, IOC (Category B) and VOC (Category D). However, the contaminants listed are not associated with any Added Sources.

The list is sorted by the SIC source description and it only shows unique SIC sources. For example, an assessment area can have 20 car washes in an assessment area, but the list is only going to show contaminant categories associated with car washes onetime. This is because all car washes have the same SIC and every car wash poses the same potential threat to water intakes.

A – Microbiological **B** – Inorganic Compounds **B1** – Eutrophication – Phosphorous
B2 – Sedimentation **B*** – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

Potential Contaminants Listing

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Unregulated Identified Site Sources and associated Potential Contaminant Category

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7538	Auto Truck Repair Service	Inorganics, VOCs	B
"	"	"	D
2086	Bottled and Canned Soft Drinks Production	BOD	A
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	A
"	"	"	B*
3469	Metal Stampings Manufacturing	inorganics, VOCs	B
"	"	"	D
1542	Nonresidential Construction	Sedimentation	B2
3444	Sheet Metal Work Manufacturing	Metals and TSS, VOCs and metal etch	B
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	A
"	"	"	B1
"	"	"	B2
"	"	"	B*
"	"	"	C
3842	Surgical Appliances and Supplies Manufacturing	inorganics, VOCs	B
"	"	"	D
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	B

Unregulated Identified Site Sources and associated Potential Contaminant Category.

SIC ID	SIC Source	Potential Contaminant	Contaminant Category
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	D
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	A
"	"	"	B
5083	Farm and Garden Machinery	inorganics	B

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Protection Measures:

The Protection Measures section shows water quality protection measures for the Standard Industrial Classifications (SIC) identified in the assessment area.

Previous sections of this report are designed to show areas that Public Water Supplies (PWS) can focus on to improve the susceptibility of an assessment area. This section helps identify water quality protection measures that a PWS can use as guidance for implementing action for a potential contaminant site in the assessment area. It focuses on protection measures that can reduce the risk of contamination to the water supply.

This portion of the report only displays water quality protection measures for each type of SIC found in the assessment area. It does not display protection measures for each site in the assessment area because every SIC should have the same or similar water quality protection management practices. However, the protection measures listed are not associated with any Added Sources.

Protection Measures

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Assessment Area: **263**

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
7538	Auto Truck Repair Service	Inorganics, VOCs	Discharge to POTW. Manage oil products and used oil so that it is not in contact with water	40 CFR 442 and
2086	Bottled and Canned Soft Drinks Production	BOD	Wastewater pretreatment and/or discharge to a POTW.	40 CFR 407 and State or federal Storm water pollution prevention regulations
2011	Meat Packing Plant Manufacturing	BOD, pathogens, Oil and grease	Wastewater pretreatment and/or discharge to a POTW	40CFR 432 and State or federal Storm water pollution prevention regulations
3469	Metal Stampings Manufacturing	inorganics, VOCs	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 464 and State or federal Storm water pollution prevention regulations
1542	Nonresidential Construction	Sedimentation	Erosion and Sediment Control	KAR 28-16, KDHE
3444	Sheet Metal Work Manufacturing	Metals and TSS, VOCs and metal etch	Minimize outdoor storage and control storm water runoff. Pre-treat process wastewater prior to discharge to POTW	40 CFR 464 and State or federal Storm water pollution prevention regulations

Recommended Water Quality Protection Measures

SIC	SIC Source	Contaminant Source	Water Quality Protection Measure	Regulatory Authority
1521	Single-family Housing Construction	Oil, Paint, Pesticides, Fertilizers	Proper cleaning and disposal of household hazardous waste. Proper storage, application, and clean up of pesticides and fertilizers	KAR 28-48, KDHE, KDEM
3842	Surgical Appliances and Supplies Manufacturing	inorganics, VOCs	Manage wastes properly and treat process wastewater prior to discharge to a POTW or direct	State or federal Storm water pollution prevention regulations
7532	Top, Body, and Upholstery Repair Shops and Paint Shops	Inorganics, VOCs	Discharge to POTW. Recycle where appropriate. Properly maintain oil product and waste. Manage paint and solvent wastes properly	NA
742	Veterinary Services, Specialties	Sanitary, Inorganics TSS	Discharge to POT	NA
5083	Farm and Garden Machinery	inorganics	Discharge to POTW	NA

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Assessment Analysis:

The Assessment Analysis section displays the numbers assigned to each contaminant of concern category for each question in the susceptibility analysis.

This analysis is based on a decision tree framework consisting of a series of yes/no questions. These questions consider the proximity of contaminant sources to the water supply intake, the type of contaminant, and the application of pollution prevention or water quality protection practices to sources of contamination. As the evaluator moves through the analytical framework, susceptibility points are accumulated based on the presence of contaminant sources in the assessment area.

After all the questions have been answered, the SLS is calculated for each contaminant of concern category. The SLS is determined by counting the number of contamination risk factors found to occur in the delineated assessment area and applying a multiplier to this number. Because the number of contaminant category risk factors is not equal, the multiplier is used to establish a common scale for the SLS of each contaminant category.

Assessment Analysis

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **263**

Ground Water Multiple Wells Analysis

A – Microbiological **B** – Inorganic Compounds
B* – Nitrates **C** – Synthetic Organic Compounds
C* – Pesticides **D** – Volatile Organic Compounds

No.	Question	Response	A	B	B*	C	C*	D
1	Is any well under the influence of surface water?	No	0	0	0	0	0	0
2	Do all PWS wells meet KS PWS water well construction standards?	Yes	0	0	0	0	0	0
3	Is any well less than 30 feet deep?	No	0	0	0	0	0	0
4	Is gravel pack within 20 feet of any well surface?	No	0	0	0	0	0	0
5	Does a PWS own or control all the areas around the wells?	Yes	0	0	0	0	0	0
6	Does Zone B consist entirely of native grass?	No	2	2	2	2	2	2
7	Is there a contaminated well in Zone B?	No	0	0	0	0	0	0
8	Is a class V UIC well present?	No	0	0	0	0	0	0
9	Are any commercial, industrial, or urban areas present in Zone B?	No	0	0	0	0	0	0
10	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
11	Are any non-farm home sites present in Zone B?	No	0	0	0	0	0	0
12	Do all the non-farm home sites have a water quality protection plan?	Yes	0	0	0	0	0	0
13	Are any farmsteads present in Zone B?	Yes	1	1	1	1	1	1
14	Do all farmsteads have a water quality protection plan?	No	1	1	1	1	1	1
15	Is there grazing livestock in Zone B?	Yes	1	0	1	0	0	0
16	Have all livestock producers implemented water quality protection measures?	No	1	0	1	0	0	0
17	Is there livestock confinement in Zone B?	No	0	0	0	0	0	0

No.	Question	Response	A	B	B*	C	C*	D
18	Is each confined animal feeding operation registered with KDHE?	Yes	0	0	0	0	0	0
19	Is there corn or grain sorghum production in Zone B?	Yes	0	0	1	0	1	0
20	Are corn/grain sorghum nutrient and pesticide management plans in use for each site?	No	0	0	1	0	1	0
21	Are any orchards present in Zone B?	No	0	0	0	0	0	0
22	Are orchard nutrient and pesticide management plans in use for each site?	Yes	0	0	0	0	0	0
23	Are there unsewered developments (concentrations of lagoons or septic systems) present in Zone B?	No	0	0	0	0	0	0
24	Is there a railroad or major highway in Zone B or C?	Yes	0	1	1	1	1	1
25	Is there oil production in Zone B or C?	Yes	0	1	0	1	0	1
26	Do coarse textured soils predominate Zones A, B and C?	No	0	0	0	0	0	0
27	Is an irrigation well located in Zone B or C?	Yes	0	1	1	1	1	1
28	Is a wastewater treatment facility in Zone B or C?	Yes	1	1	1	1	1	1
29	Is a solid waste landfill in Zone B or C?	No	0	0	0	0	0	0
30	Are there unplugged, abandoned water wells present in Zone C?	Yes	2	1	1	1	1	1
31	Are any commercial, industrial, or urban area present in Zone C?	No	0	0	0	0	0	0
32	Does each industrial/commercial site and urban area have a water quality protection plan in place?	Yes	0	0	0	0	0	0
33	Is there livestock confinement in Zone C?	Yes	1	1	1	1	1	0
34	Is each confined livestock facility registered with KDHE?	Yes	0	0	0	0	0	0
35	Do all the livestock producers have water quality protection measures in place?	No	1	0	1	0	0	0
36	Are cropland nutrient management plans in place?	No	0	0	1	0	0	0
37	Are cropland pesticide management plans in place?	No	0	0	0	0	1	0
38	Does a perennial stream flow into Zone C?	Yes	1	1	1	1	1	1
39	Are watershed water quality protection plans in place?	No	1	1	1	1	1	1

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **263**
Diversion Id's: **021, 22**
Status: **Accepted**
Submit Date: **2002-12-24 12:04:59**

Site Comments:

The Site Comments section lists all the comments that were added for the potential sources of contamination found in the assessment area.

Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding detail to the sites that can be referenced for more information.

This local information may include comments on potential contamination threats (or lack there of), local water quality protection initiatives, etc. Adding comments are optional and are mainly focused on sources in areas that could have the greatest impact on water supply if a spill or release occurred in the environment. It is left to the discretion of the PWS and/or source water assessment committee to add comments.

Site Comments

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **263**

Comments for Unregulated Sites

Did Not Receive Any Comments

Comments for Regulated Confined Animal Feeding Operations Sites

Potential Contaminant Site Name	Site No.	Site Comments	Author
Fredrickson, George	2001577	This cattle livestock facility has no water quality protection plans.	Nicole Fisher

Comments for Regulated Hazardous Waste Sites

Did Not Receive Any Comments

Comments for Regulated Leaking Storage Tank Sites

Did Not Receive Any Comments

Comments for Regulated Identified Contaminated Sites

Did Not Receive Any Comments

Comments for Regulated Solid Waste Sites

Did Not Receive Any Comments

Comments for Regulated Waste Water Sites

Did Not Receive Any Comments

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **263**
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Added Site Comments:

The Added Site Comments section lists the comments for why sites were added as a potential source of contamination found to the assessment area.

Added Site Comments

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **263**

Comments for Added Contaminant Sites

Added Contaminant Site Name	Site No.	Site Comments	Author
Ceramics Company	9000466	Fuel storage is close to well site	Mike Houck
Grove of trees	9000867	This is an important buffer to protect the wells from possible contamination.	Nicole Fisher
Irrigation equipment, pump site, and well	9000864	This site could possibly contaminate the public water supply.	Nicole Fisher
Irrigation equipment, pump site, and well	9000868	This site could possibly contaminate the public water supply.	Nicole Fisher
cropland	9000863	This site could possibly contaminate the public water supply.	Nicole Fisher

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **263**
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Analysis Question Comments:

The Analysis Question Comments section lists all the comments that were added during analysis portion of the assessment, in which a series of yes/no questions were asked.

Evaluators have the option to add comments to questions to clarify why a response was given or to give more details to a question. Local comments and feedback from people that are familiar with the assessment area is an important aspect of the assessment. The comments greatly improve the assessment by adding clarification and details that could not be identified with a simple yes or no response.

Analysis Question Comments

Public Water Supply: **CONCORDIA, CITY OF**
Assessment Area: **263**

Comments for Analysis Questions

Analysis Question	Question Comments	Author
Did Not Receive Any Comments		